

ENYA'S 09-II

TWO previous Enya models dealt with in this series, the 15-D and 29-III, earned very favourable reports and our examination and test of the new 09-II was, in consequence, undertaken with the thought that this, too, might be an above average performer in its class. In this matter we were not disappointed, for the 09-II appears to be as good as anything yet seen in the 09 group.

The 0.099 cu. in. capacity limit is, of course, essentially an American category and, with most engines in this group

features several changes and somewhat altered external appearance. The same crankshaft and a similar front housing are retained but the main casting—now with the exhaust duct on the left-hand side—is of revised design, as are the cylinder-liner, transfer porting and cylinder head. Like the larger Enya glowplug engine, the 09-II features a unit crankcase and cylinder block with drop-in liner. Unlike the previous models, however, the loop-scavenged porting system now consists of a pair of internal transfer flutes in a

displacing around 1.6 c.c., is just outside the British 1.5 class. Except where contest rules may impose a 1.5 c.c. limit, however (such as in Half-A team racing), the 09 glow can be considered as an alternative power unit to the 1.5 diesel and in the case of the Enya 09-II, performance on a good fuel, can be equal to the high standards now being reached by the leading diesel 1.5's—possibly with a slight saving in weight.

Replacing the earlier Enya 09 design, the new 09-II

very thick liner, instead of the conventional external passage and rectangular intake port. One of the reasons why the Enya 09 was redesigned was the maker's desire to bring its cost down to a more competitive price without sacrificing performance or quality. The adoption of this revised cylinder design was, apparently, one of the steps taken to achieve this. In point of fact, there has been no "cheapening" of this engine: it still remains very much a scaled-down "big" engine. The hardened crankshaft retains its crescent counterbalance and drilled crankpin and runs in a bronze-bushed main bearing. Machined joint faces, including a metal-to-metal head joint, are still used and fits and finishes throughout, on our test sample, were excellent.

Specification

Type: Single-cylinder air-cooled, loop-scavenged two-stroke cycle, glowplug ignition. Crankshaft rotary valve induction. Baffle piston. Central ignition plug.

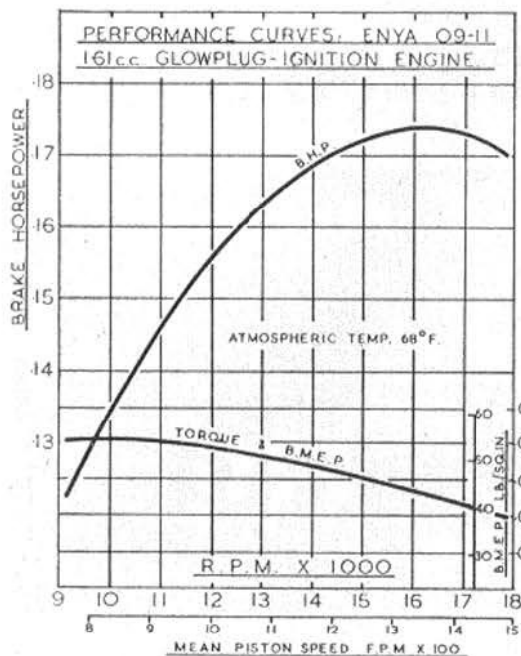
Bore: 0.500 in. Stroke: 0.500 in.

Swept Volume: 0.0982 cu. in. = 1.609 c.c.

Weight: 3.1 oz.

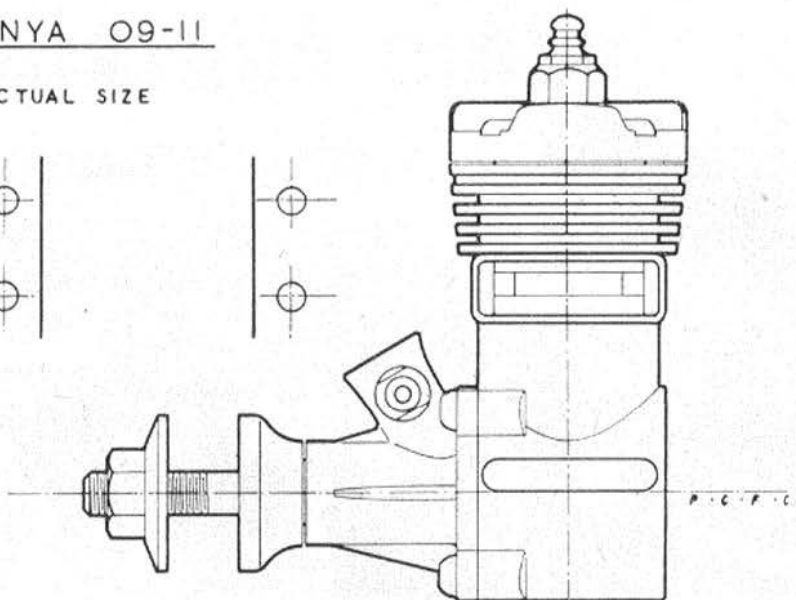
General Structural Data

Pressure diecast aluminium alloy crankcase and cylinder block with inserted liner having 0.095 in. wall thickness. Pressure diecast aluminium alloy front housing with bronze main bearing, supporting hardened counterbalanced crankshaft having 7.5 mm.



ENYA 09-II

ACTUAL SIZE



(0.295 in.) dia. journal, 5 mm. (0.196 in.) crankpin and 5.5 mm. (0.216 in.) bore gas passage. Lapped, lightweight piston with straight fence baffle and 3.5 mm. (0.138 in.) dia. fully-floating tubular gudgeon-pin with aluminium end pads. Diecast aluminium alloy connecting-rod. Finned and machined pressure diecast aluminium alloy cylinder head attached to cylinder with four screws. Machined alloy prop driver fitted to matching taper on shaft. Nickel-plated spraybar type needle-valve assembly. Beam mounting lugs, with provision for fitting radial mounting studs.

Test Engine Data

Running time prior to test: two hours.
Fuel used: Record Super-Nitrex (30 per cent. nitromethane).

Ignition plug used: Enya No. 3 (hot rating platinum rhodium filament, 1.5 volt).

Performance

Starting qualities of the 09-II on test were excellent and a beginner should have no difficulty in handling this engine after a short acquaintance. This ease of starting was maintained irrespective of the size of the prop used and the Enya was quite remarkable for the manner in which it coped with a wide variety of props, from 19,500 r.p.m. on a Frog 6 x 4 down to 8,000 on a 9 x 6. The performance at the lower speeds was equal to that of a top class 1.5 diesel—very unusual in a small glow engine, most of which are not especially noteworthy for their low-speed pulling power. At the highest speeds, the engine

was absolutely dead steady and seemed quite prepared to run indefinitely at speeds approaching 20,000 r.p.m. At all speeds it was smooth running and free from excessive vibration.

The maximum power recorded was 0.176 b.h.p. at a little over 16,000 r.p.m. To achieve the peaking speed in the air, something like a 7 x 4 would be desirable. Alternatively, a good 8 x 3 or 8 x 4 should also give an excellent F/F performance.

All these figures relate to a fairly heavily nitrated fuel. Performance will inevitably be appreciably lower on a straight methanol/castor mixture or on mild fuels.

Power/Weight Ratio (as tested): 0.908 b.h.p./lb.

Specific Output (as tested): 109 b.h.p./litre.